

## Patent Abstracts of Japan

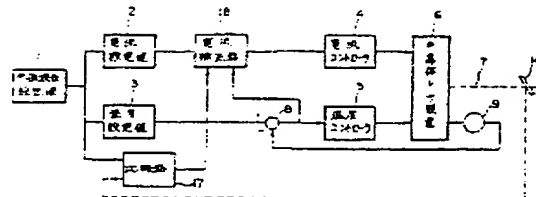
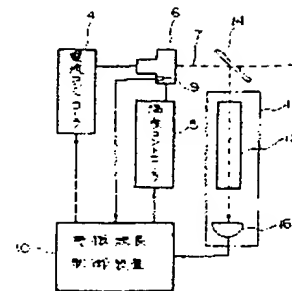
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TITLE : OSCILLATION WAVELENGTH  
 STABILIZATION OF SEMICONDUCTOR  
 LASER



ABSTRACT : PURPOSE: To control oscillation wavelength accurately, by detecting the temperature of a semiconductor laser element and then, obtaining the difference between the above detected temperature and the temperature that is set in advance, thereby correcting that of the semiconductor laser element by causing a current value that is set in advance to vary.

CONSTITUTION: Once the temperature of a semiconductor laser device 6 varies, the oscillation wavelengths of a laser beam 7 deviate from the set values 1 of the oscillation wavelengths and then, a temperature controller 5 performs movements to correct the temperature of the semiconductor laser device 6. Because of a capacitance of the semiconductor laser device 6, the above temperature control increases system time constant and lengthen the time of a transient state. During this transient time, a light detecting signal outputs wavelength deviation detecting signals from a comparator 17 to the effect that the oscillation wavelengths of the laser beam 7 deviate from the set value 1 of the oscillation wavelength and the above signals are sent to a current corrector 18 of an oscillation wavelength control device 10. The current corrector 18 takes the difference between the temperature set value 3 that is obtained by a subtractor 8 and the temperature of the semiconductor laser device 6 that is detected by a temperature detector 9 and corrects the current set value 2. Then the corrected current value is transmitted to a current controller 4.

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